

# Cryptosporidiosis

## PROTOCOL CHECKLIST

- ☐ Enter available information into Merlin upon receipt of initial report
- ☐ Review background information on the disease and its epidemiology (see [page 2](#)), surveillance case definition (see [page 4](#)), and laboratory testing (see [page 5](#))
- ☐ Prioritize reported cases for follow up, and investigate and interview as appropriate (see [page 6](#))
  - ☐ Contact provider if necessary to gather more information
  - ☐ Interview patient
    - ☐ Review disease facts (see [page 2](#))
      - ☐ Modes of transmission
      - ☐ Incubation period
      - ☐ Symptoms
    - ☐ Ask about exposure to relevant risk factors (see [page 8](#))
      - ☐ Travel
      - ☐ Consumption of raw or unpasteurized milk or dairy products
      - ☐ Restaurant meals
      - ☐ Source(s) of drinking water
      - ☐ Recreational water exposure
      - ☐ Contact with pets, livestock, or other animals
      - ☐ Sexual contact involving potential fecal exposure
  - ☐ Identify symptomatic contacts
  - ☐ Determine if an infected patient or symptomatic contact is in a sensitive situation (see [page 11](#))
    - ☐ Recommend exclusions for patients or symptomatic contacts (see [page 11](#))
  - ☐ Provide education on controlling further spread (see [page 9](#))
    - ☐ Practice good hygiene
    - ☐ People with diarrhea should not prepare food for others
    - ☐ People with diarrhea should not use recreational water venues
    - ☐ Avoid contact with immunosuppressed people
    - ☐ Avoid fecal exposure during sexual activity
  - ☐ Address patient's questions or concerns
- ☐ Follow-up on special situations, including outbreaks or infected persons in sensitive situations (see [page 11](#))
- ☐ Enter additional data obtained from interview into Merlin (see [page 9](#))

# Cryptosporidiosis

## 1. DISEASE REPORTING

### A. Purpose of reporting and surveillance

1. To detect individual people with cryptosporidiosis in such a way that public health, medical, or behavioral action can prevent spread from the reported patient.
2. To detect outbreaks of illnesses due to this agent, early enough to make a difference to the course of the outbreak.
3. To allow a better understanding of the descriptive epidemiology of cases, in order to be able to focus primary case prevention efforts, and formulate better prevention strategies.
4. To detect outbreaks of illnesses due to these agents, in order to understand better the events that lead to outbreaks and thus be able to focus outbreak prevention efforts (for possible future outbreaks). Note that there are numerous other ways that outbreaks are commonly detected, and this is not the most common.

### B. Legal reporting requirements

Laboratories and physicians are required to report persons infected with *Cryptosporidium* to the county health department (CHD) within one working day of identification/diagnosis.

### C. County Health Department investigation responsibilities

1. Prioritize reported cases for follow-up ([see Section 5 for more information](#)):
  - a. Group 1: cases in people where information available at the time of the initial case-report indicates they are part of an outbreak or are in a sensitive situation. Sensitive situations for enteric diseases generally include attendees or employees of a daycare/childcare setting, food handlers, or employees in a healthcare setting with direct patient care.
  - b. Group 2: cases in people whose case-report is received while they are likely to still be symptomatic and infectious. [See Section 5B, item 2b for more information on determining whether a person is likely to still be symptomatic.](#)
  - c. Group 3: all other reported cases.
2. Follow up with prioritized cases and administer appropriate measures to control further spread, as appropriate. [See Section 6 for recommendations on controlling further spread.](#)
3. Report all confirmed and probable cases in Merlin.
4. Review reported cases by street address, reporting source, race, ethnicity, age group, onset or report date, etc. to detect possible clusters of infected individuals.

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## 2. THE DISEASE AND ITS EPIDEMIOLOGY

### A. Etiologic Agent

Cryptosporidiosis is an infection with a protozoan parasite, *Cryptosporidium parvum* (Crypto) which infects humans, cattle and other mammals. Other species in the genus *Cryptosporidium* rarely infect humans. During the past 2 decades, Crypto has become recognized as one of the most common causes of waterborne disease (recreational water and drinking water) in humans in the United States. The parasite is found in every region of the U.S. and throughout the world.

The *Cryptosporidium* oocysts (infectious agent) are relatively hardy in the environment, and in the right conditions can survive for weeks or months. They are resistant to the typical concentrations of chlorine and other disinfectants commonly used for water treatment. They can be killed by heat (e.g., bringing water to a rolling boil), removed by adequate filtration, or inactivated by *prolonged* disinfection processes that in practice may be difficult to achieve

## B. Description of Illness

The most common symptom of cryptosporidiosis is mild to severe watery diarrhea. Other symptoms include:

- Stomach cramps or pain
- Dehydration
- Nausea
- Vomiting
- Fever
- Weight loss

Some people with Crypto will have no symptoms at all. While the small intestine is the site most commonly affected, *Cryptosporidium* infections could possibly affect other areas of the digestive tract or the respiratory tract.

Illness can be intermittent and prolonged, lasting days to weeks in many patients; over a month in some. Infection can be severe and persistent in persons who are immunocompromised (e.g., chemotherapy, untreated AIDS).

## C. Reservoirs

A wide variety of mammals are hosts for this parasite, which is shed in feces. Young livestock, notably calves and lambs, are commonly infected and may excrete huge numbers of oocysts. While many wild animals (mammals, birds, reptiles) are infected with various species of *Cryptosporidium*, their importance as a source of human infection is not clear.

## D. Modes of transmission

*Cryptosporidium* lives in the intestine of infected humans or animals and large numbers ( $10^8$  to  $10^9$  per bowel movement) of oocysts can be excreted in one bowel movement. Shedding of Crypto in the stool begins when the symptoms begin and can last for weeks after the symptoms (e.g., diarrhea) stop. You can become infected after accidentally swallowing the parasite oocysts. *Cryptosporidium* may be found in soil, food, water, or surfaces that have been contaminated with the feces from infected humans or animals. Crypto is not spread by contact with blood). Oocysts are immediately infective to other susceptible hosts. The infectious dose can be very low (less than 100). Most recognized outbreaks to date have been waterborne.

Commonly recognized vehicles or mechanisms of transmission include:

1. Contact with infected persons (i.e., those in the same household or child care) or infected animals (e.g., young livestock)
2. Drinking fecally contaminated and inadequately treated water;
3. Ingesting fecally contaminated recreational water (rivers, lakes, etc.);
4. Eating food contaminated by animals or food handlers (rarely documented); and
5. Certain types of sexual contact (e.g., oral-anal contact).

## E. Incubation period

The incubation period ranges from approximately 2–12 days but is typically 5–8 days.

**F. Period of communicability**

People are communicable as long as oocysts are being shed which is typically days to weeks, usually 1-2 weeks. Shedding may persist after symptoms resolve, although the concentrations of oocysts (and hence infectivity) soon decline.

**G. Treatment**

A 3-day course of Nitazoxanide is approved by the FDA for treatment of diarrhea caused by *Cryptosporidium* species in people  $\geq 1$  year old with healthy immune systems. For immunocompromised patients, further treatment may be necessary. Ask the patient to consult his/her physician.

For additional information regarding nitazoxanide, see:  
<http://www.cdc.gov/parasites/crypto/treatment.html>

**H. Prophylaxis**

None indicated.

**I. Cryptosporidiosis in Florida**

Cryptosporidiosis has been reportable in FL since 1992. The Florida Department of Health receives 400-500 reports of cryptosporidiosis each year. The majority (~90%) of these patient infections appear to be sporadic. The highest rates of illness occur in the 1-4 year age group (7.7 per 100,000). Increases in cryptosporidiosis are commonly observed during the summer months when exposure to recreational water is more common.

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**3. CASE DEFINITION****A. Clinical description**

An illness characterized by diarrhea, abdominal cramps, loss of appetite (anorexia), nausea, or vomiting. Infected persons may be asymptomatic (asymptomatic persons are not considered clinical compatible).

**B. Laboratory criteria for diagnosis**

Confirmed: evidence of *Cryptosporidium* organisms or DNA in stool, intestinal fluid, tissue samples, biopsy specimens, or other biological sample by certain laboratory methods with a high positive predictive value (PPV), (e.g., Direct fluorescent antibody [DFA] test, polymerase chain reaction [PCR], enzyme immunoassay [EIA], or light microscopy of stained specimen).

Probable: the detection of *Cryptosporidium* antigen by screening test method, such as immunochromatographic card/rapid card test; or a laboratory test of unknown method.

**C. Case classification**

Confirmed: a case that is diagnosed with *Cryptosporidium* spp. infection based on laboratory testing using a method listed in the confirmed criteria.

Probable:

- a case with supportive laboratory test results for *Cryptosporidium* spp. infection using a method listed in the probable laboratory criteria. When the diagnostic test method on a laboratory test result for *Cryptosporidium* cannot be determined, the case can only be classified as probable.

OR

- a case that meets the clinical criteria and is epidemiologically linked to a confirmed case.

#### D. Comment

Persons who have a diarrheal illness and are epidemiologically linked to a probable case because that individual was only diagnosed with cryptosporidiosis by an immunocard/rapid test/ or unknown test method cannot be classified as probable cases.

The disease can be prolonged and life-threatening in severely immunocompromised persons. When available, species designation and molecular characterization should be reported.

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## 4. LABORATORY SERVICES

### A. Criteria for Diagnosis

Diagnosis of cryptosporidiosis is made by examination of stool samples. Because detection of *Cryptosporidium* can be difficult, patients may be asked to submit several stool samples over several days. Most often, stool specimens are examined microscopically using different techniques (e.g., acid-fast staining, direct fluorescent antibody [DFA], and/or enzyme immunoassays for detection of *Cryptosporidium* species antigens).

Molecular methods (e.g., polymerase chain reaction – PCR) are increasingly used in reference diagnostic labs, since they can be used to identify *Cryptosporidium* species at the species level. Tests for *Cryptosporidium* are not routinely done in most laboratories; therefore, health care providers should specifically request testing for this parasite.

### B. Services available at the Bureau of Public Health Laboratories (BPHL)

BPHL uses acid-fast staining of formalinized stool smears to determine the presence or absence of *Cryptosporidium* species stain at all BPHL sites.

### C. Testing requests

1. Submitting specimens/isolates to BPHL
  - a. All submissions should be accompanied by Clinical Lab Submission Form 1847 ([http://www.doh.state.fl.us/lab/addpages/BOL\\_Forms.html](http://www.doh.state.fl.us/lab/addpages/BOL_Forms.html)).
  - b. Electronic Laboratory Ordering (ELO) may also be used by entering request into the HMS State Laboratory System, placing bar coded label on the O&P vial, and writing the date collected on the vial.
2. Specimen collection
  - a. A small portion (acorn size) of formed stool or equal portion of liquid stool should be transferred aseptically to an O&P transport vial that is properly labeled (name, date of birth, date collected).

Note: please select code 1000-intestinal O&P and write “suspect *Cryptosporidium* for confirmation and speciation” in the comment section of the Clinical Lab Submission Form 1847.

3. Packaging and shipping
  - a. Specimens for *Cryptosporidium* testing should be sent to the Jacksonville BPHL laboratory.
  - b. Place labeled vial in the proper inner/outer container (aluminum screw-cap inner container with spill absorber holds the primary vial and that is then placed in an outer cardboard screw-cap container). Please place the Clinical Lab Submission Form 1847 in a plastic Ziploc bag between the inner and outer container. Package according to International Air Transport Association (IATA) regulations, labeling the outer shipping container: *UN3373, Biological Substance Category B*.
  - c. Specimens and isolates should be sent at ambient temperature or cooler, but cool packs should not be in direct contact with vials.
  - d. [http://www.doh.state.fl.us/lab/PDF\\_Files/Packaging\\_Flowchart\\_0422051.pdf](http://www.doh.state.fl.us/lab/PDF_Files/Packaging_Flowchart_0422051.pdf)
  - e. [http://www.doh.state.fl.us/lab/PDF\\_Files/Packaging\\_Flowchart\\_notes\\_0422051.pdf](http://www.doh.state.fl.us/lab/PDF_Files/Packaging_Flowchart_notes_0422051.pdf)
4. Contact the regional laboratory with questions:  
[http://www.doh.state.fl.us/lab/addpages/BOL\\_Contacts.html](http://www.doh.state.fl.us/lab/addpages/BOL_Contacts.html).

#### D. Interpretation of results

Results will indicate whether *Cryptosporidium* oocysts are present or not present.

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## 5. CASE INVESTIGATION

**All people with a positive *Cryptosporidium* result, regardless of laboratory method, should be investigated and managed as follows.**

#### A. Prioritize case reports for further investigation and interview based on INITIAL case report:

1. Rationale for prioritization
  - a. People with these enteric infections are most infectious to others while they are symptomatic.
  - b. Most transmission occurs early in peoples' gastrointestinal illnesses, before the nature of the illness is recognized, not from people who are convalescing and no longer have diarrhea. This highlights the importance of excluding people who have diarrhea of any cause from being present in sensitive situations.
  - c. Educating an infected person about how they likely got infected and how they can avoid getting infected again in future is not a high-priority public health activity.
  - d. Our public health goal should be to intervene with people who are still symptomatic from their infection. If a person with a reported case is already free of diarrhea by the time CHD staff get ready to contact him/her, there is little value in doing an interview or an educational intervention.
2. Prioritization groups and actions
  - a. Group 1: the report appears (before any interviewing is done) to be for a person in a sensitive situation to be part of an outbreak (regardless of how long it has been since event date), or to be part of a laboratory-defined cluster.

Note: CHD staff can detect some outbreaks and sensitive situations before they contact individual reported patients. For example, some case reports will include the information that the person is in a sensitive situation and the person reporting a case (e.g. physician or infection preventionist) should be asked for this information both

routinely and as individual case reports are taken. CHD staff should be reviewing their reported cases of each disease (by apparent ethnicity, street address, report source, race, onset or report date, age group, etc.) in order to detect apparent clusters, which would put the reported cases that are part of that cluster in Group 1. Some people will self-report that they are part of outbreaks, and some outbreaks will be reported to or come to a CHD's attention in other ways.

Action: locate and interview case (see 5B below). Take needed follow-up action. Enter all available information in Merlin and report the case.

- b. Group 2: cases in people whose case-report is received while they are likely to still be symptomatic and infectious (see table and notes below).

The table below shows the number of days since earliest known date (event date) when interview attempts should be made routinely. Use the column that corresponds to the earliest known date for each case. For example, if the earliest date you have for a case is onset on September 10, you would interview up to 6 days later, or September 16. If the earliest date you have for a case is specimen collection on September 23, you would interview up to 4 days later, September 27. If the earliest date you have for a case is lab report on September 18, you would only interview within 1 day.

Usual duration of illness (in days)	# of days from onset date	# of days from diagnosis date	# of days from specimen collection date	# of days from lab report date
14	14	8	9	7

Action: locate and interview case to determine whether the person may have put or be putting others at risk in a sensitive situation; is part of a recognized or unrecognized outbreak; and convey a brief, focused educational intervention about how to avoid infecting other. If case turns out to be in a sensitive situation or part of an outbreak, take necessary follow-up action. **See [Section 6](#) for recommendations on controlling further spread and [Section 7](#) for recommended exclusions for symptomatic cases in sensitive situations.** Enter all available information in Merlin and report the case.

- c. Group 3: all other reported cases.

Action: mail or e-mail information to case or guardian, if address available. Interview is not necessary. Enter all available information in Merlin and report the case.

## B. Investigate and interview as necessary based on case report prioritization

1. The purposes of investigation, interview, and/or counseling are to:
  - a. Determine whether the person with the reported case may have put or be putting others at risk in a sensitive situation;



- b. Determine whether the person with the reported case may be part of a recognized or unrecognized outbreak, as a trigger to further investigation; and
  - c. Convey a highly focused, brief educational intervention to a person who is still symptomatic (or their parent or guardian) about how to avoid infecting others.
2. Contact the case to complete an interview as soon as possible after being reported to optimize recall.
  - a. If contact information for the case-patient is not received in the initial case report, contact the reporting physician or laboratory to obtain contact information.
  - b. Make at least 3 phone call attempts to reach the case, if still within the prioritization time frame.
  - c. Calls should be made at different times of the day, with at least one attempt in the evening.
3. Currently, there is no standard Cryptosporidiosis Case Report Form or Extended Data screen in Merlin. There is an example risk factor questionnaire on the case report form webpage that can be used to guide your interview ([http://www.doh.state.fl.us/disease\\_ctrl/epi/topics/crforms.html](http://www.doh.state.fl.us/disease_ctrl/epi/topics/crforms.html)).
4. Items to cover during interview include:
  - a. Provide brief background on disease, including possible modes of transmission, incubation period, symptoms, etc.
  - b. Activities during exposure period (12 days before onset):
    - i. Contact with any acquaintances or household member with a similar illness (anyone meeting the probable case definition should be reported and investigated in the same manner as a confirmed case);
    - ii. Travel outside Florida or the United States. Determine dates of travel.
    - iii. Consumption of high risk foods (e.g., raw milk or raw milk products).
    - iv. Source(s) of drinking water as well as water from streams or lakes.
    - v. Recreational water exposure. This includes swimming, playing, or other exposure to lakes, streams, swimming pools, water parks or wading pools where water may have been swallowed.
    - vi. Contact with pets, livestock, or other animals (including farms and petting zoos).
    - vii. Sexual contact involving potential fecal exposure.
    - viii. **Note:** If the patient reports **no** gastrointestinal symptoms, the patient seems to be an instance of secondary transmission, or the infection was acquired outside of the U.S., there is no need to collect exposure information for the exposure period.
  - c. Determine if others (e.g., family, friends, co-workers, customers, patients, etc.) are known or thought to be ill with similar symptoms. If so, inquire about possible common source exposures. Obtain the name, phone number or address and clinical information of the other ill people. Anyone meeting the probable case definition should be reported and investigated in the same manner as a confirmed case.
  - d. Determine if the case or any of their symptomatic household or other close contacts are associated with **sensitive situations**. Sensitive situations for enteric diseases generally include attendees or employees of a daycare/ childcare setting, food handlers, or employees in a healthcare setting with direct patient care. Determine the dates and times he/she worked to determine the risk of transmission to others. **See [Section 7](#) for recommended exclusions for symptomatic persons or contacts in sensitive situations.**
  - e. Provide basic instruction to patients and potentially exposed contacts about hand washing after defecation, diaper changing, and before food preparation; about the importance of proper food handling and adequate cooking for meat; and, in general,



provide pointers about minimizing fecal contamination in daily life. See [Section 6](#) for recommendations on controlling further spread.

### C. Environmental evaluation

During routine case investigations of cryptosporidiosis, if a particular food or water exposure is suspected as the likely source of infection, then the CHD investigator should complete the Tri-Agency Foodborne Illness Survey/Complaint Form ([http://www.foodandwaterdisease.com/forms/Tri-Agency\\_Foodborne\\_Illness\\_Form\\_Electronic\\_2-16-2011.pdf](http://www.foodandwaterdisease.com/forms/Tri-Agency_Foodborne_Illness_Form_Electronic_2-16-2011.pdf)). The CHD investigator should record that complaint in their complaint log, and forward it to the appropriate agency with jurisdiction.

For each interviewed sporadic case of cryptosporidiosis with an environmental exposure that could affect many people (e.g., a restaurant, water park, or high-risk commercially distributed food item), review complaint logs and recent cryptosporidiosis cases in Merlin for additional cases that may be linked to the same facility or exposure source. When a community outbreak of cryptosporidiosis is identified, most or all cases will be in the high-priority Group 1 and be a high priority for interview and investigation. A joint investigation/environmental assessment for single, sporadic cases of cryptosporidiosis is not necessary. If additional cases are suspected or an outbreak is detected, the regional environmental epidemiologist should be notified and a joint investigation/environmental assessment will be conducted with the appropriate regulatory authority. Investigation guidelines and forms for when and how to perform a joint investigation/environmental assessment are available on the Food and Waterborne Disease Program's Investigation Tools webpage ([http://www.foodandwaterdisease.com/investigation\\_information.htm](http://www.foodandwaterdisease.com/investigation_information.htm)). Technical assistance is also available from your Regional Environmental Epidemiologist, if needed ([http://www.foodandwaterdisease.com/contact\\_docs/RegionalEpidemiologist\\_ContactsList.pdf](http://www.foodandwaterdisease.com/contact_docs/RegionalEpidemiologist_ContactsList.pdf)).

If an animal venue such as a petting zoo is suspected, consult the Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2011: <http://www.cdc.gov/mmwr/pdf/rr/rr6004.pdf>.

### D. Merlin data entry

Create a case in Merlin under disease code **CRYPTOSPORIDIOSIS-13680**. Enter the data collected into Merlin, being sure to include all required fields on the Basic Data screen, complete the Case Symptoms screen, and attach all relevant labs. Please attach **ALL** labs received via electronic laboratory reporting (ELR) to the case.

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## 6. CONTROLLING FURTHER SPREAD

### A. Patient/household education on prevention recommendations

1. Case reports prioritized for investigation (i.e., part of an outbreak, in a sensitive situation, or still likely to be symptomatic) should be educated on preventing transmitting infection to others.
  - a. Wash hands after using the toilet, changing diapers, handling soiled clothing or linens.
  - b. People with diarrhea should not prepare food for others.

- c. People with diarrhea should not use recreational water venues (e.g., pools, lakes, interactive fountains, water parks) until 2 weeks after symptoms resolve.
- d. Avoid contact with immunosuppressed people.
- e. Avoid fecal exposure during sexual activity.
- 2. General information on preventing disease may also be covered.
  - a. Wash hands thoroughly after contact with animals, particularly young livestock or animals with diarrhea.
  - b. Avoid water that might be contaminated.
    - i. Do not drink untreated water from shallow wells, lakes, rivers, springs, ponds, and streams.
    - ii. Do not drink untreated water or use ice made from untreated water during community-wide outbreaks of disease caused by contaminated drinking water.
    - iii. Do not swallow recreational water. For more information on recreational water-related illness, visit CDC's Health Swimming website (<http://www.cdc.gov/healthyswimming/>).
    - iv. Do not drink untreated water or use ice made from untreated drinking water in countries where the water supply might be unsafe. For information on traveler's health and cryptosporidiosis, visit CDC's Yellow Book (<http://wwwnc.cdc.gov/travel/page/yellowbook-2012-home.htm>).
    - v. Obtain recommendations on safe drinking water sources if severe flooding occurs. Shallow private wells in flooded areas may need to be checked before use.
  - c. If you are unable to avoid using or drinking water that might be contaminated, then you can make the water safer to drink by doing one of the following:
    - i. Heat the water to a rolling boil for at least 1 minute (at altitudes greater than 6,562 feet [ $>2,000$  meters], boil water for 3 minutes).
    - ii. Use a filter that has an absolute pore size of 1 micron or smaller, or one that has been NSF rated for "cyst removal." For information on choosing a water filter, see CDC's Fact Sheet A Guide to Water Filters (<http://www.cdc.gov/crypto/factsheets/filters.html>).
    - iii. Chemical treatments are often not effective for preventing cryptosporidiosis and are not recommended.
  - d. Avoid food that might be contaminated.
    - i. Use safe, uncontaminated water to wash all food that is to be eaten raw.
    - ii. Wash and/or peel all raw vegetables and fruits before eating.
    - iii. Avoid eating uncooked foods when traveling in countries with minimal water treatment and sanitation systems.

## B. Isolation of cases

People with diarrhea should stay home from daycare, school, or work until they are asymptomatic for 24 hours. Follow-up or release from isolation based on stool culture results is not required. **See [Section 7](#) for recommended exclusions for symptomatic cases in sensitive situations.**

## C. Management of contacts

- 1. Symptomatic contacts: symptomatic contacts should be investigated and managed in the same manner as a confirmed case. Symptomatic contacts of confirmed cases meet the probable case definition and should be reported in Merlin. **See [Section 7](#) for recommended exclusions for symptomatic contacts in sensitive situations.**
- 2. Asymptomatic contacts: contacts who are symptom-free may be permitted to continue in their sensitive situation.

**D. Laboratory testing during outbreaks**

1. Laboratory testing should be performed to assist in public health decision making and for epidemiologic studies.
2. Symptomatic contacts may be required to submit stool specimens to establish the etiology of the outbreak.
3. Once the etiologic agent for the outbreak has been identified (4-6 specimens) further testing is usually not required for public health purposes.

**E. Food or water is implicated as the source of an outbreak**

Contact your Regional Environmental Epidemiologist for investigation assistance and guidance ([http://www.foodandwaterdisease.com/contact\\_docs/RegionalEpidemiologist\\_ContactsList.pdf](http://www.foodandwaterdisease.com/contact_docs/RegionalEpidemiologist_ContactsList.pdf)).

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**7. MANAGING SPECIAL SITUATIONS****A. Determining a sensitive situation**

Sensitive situation is not defined in Rule 64D-3 in relation to any particular disease. The examples provided in Rule 64D-3 are all related to enteric infections, but we should not assume that all sensitive situations are equal for all diseases, especially given the markedly different age distributions, and presumed different risk of transmission by age.

Section 64-D3-3.037(3) specifically gives CHD directors the authority to decide what is a sensitive situation, and provides broad authority to take necessary action to control disease.

For example, a CHD director may use his/her discretion to designate an elementary school, or the lower grades of an elementary school, as a sensitive situation, but he/she is not required to do so. This decision should be based on evidence of transmission within a particular setting.

**B. Case or symptomatic contact attends or works at a day care facility**

1. Exclusion: before returning to a day care facility, patient should be asymptomatic for 24 hours. Follow-up or release from isolation based on stool culture results is not required.
2. Instruct the operator and other staff in proper methods for food handling and hand washing, especially after changing diapers.
3. Interview the operator and check attendance records to identify other cases that occurred during the previous month.
4. Instruct the operator to notify the CHD immediately if new cases of diarrhea occur. Call or visit once each week for 2 weeks after onset of the last case to verify that surveillance and appropriate hygienic measures are being implemented. Manage newly symptomatic children as outlined above.
5. Outbreak: defined as  $\geq 2$  cases of gastrointestinal illness with similar symptoms occurring within 72 hours among children or staff who do not live in the same household; if the etiologic agent is known, an outbreak is defined as two or more cases occurring within the incubation period for the disease.
  - a. If an outbreak is identified, do a sanitary inspection and consult the Guidelines for Control of Outbreaks of Enteric Disease in Child Care Settings ([http://www.doh.state.fl.us/Disease\\_ctrl/epi/surv/enteric.pdf](http://www.doh.state.fl.us/Disease_ctrl/epi/surv/enteric.pdf)).

- b. Phase 1: Cryptosporidiosis outbreak suspected or confirmed; phase 1 continues for 2 incubation periods after control measures have been put into place.
  - i. Exclusion: all persons with diarrhea, vomiting, or other gastrointestinal symptoms should be excluded until asymptomatic for 24 hours.
  - ii. Children who develop symptoms while at the day care should be isolated from other children until the parent or guardian removes the child from the facility.
  - iii. Personal control measures: require all persons (including, but not limited to: children, parents, siblings, staff, visitors, and service personnel) to wash hands upon entering the facility, after using the bathroom, after assisting with toileting or diaper changes, after playing outside, and before and after handling food or eating. Adults will supervise children's hand washing, infants' hands will be washed after diaper changes and staff involved in food preparation should not change diapers.
  - iv. Environmental control measures
    - Ensure that hand toys are limited to single child use between cleaning and sanitizing
    - Ensure that food is served in individual portions
    - Prohibit use of swimming pools
    - Prohibit playing with dough or clay
    - Regularly clean tables and other contact surfaces during the day using an appropriate germicide
    - Clean and sanitize potty chairs after each use
    - Clean frequently during the day and sanitize at least once a day
- c. Phase 2: if cryptosporidiosis cases continue to occur more than 14 days (2 median incubation periods) after Phase 1 control measures were put in place, contact the Bureau of Epidemiology for guidance.

**C. Case or symptomatic contact is a food handler**

- 1. Exclusion: before returning to food handling, patient must be asymptomatic.
- 2. Contact your Regional Environmental Epidemiologist  
([http://www.doh.state.fl.us/environment/medicine/foodsurveillance/about\\_us.htm](http://www.doh.state.fl.us/environment/medicine/foodsurveillance/about_us.htm))

**D. Case or symptomatic contact works at a healthcare or residential care facility**

Exclusion: before returning to a healthcare or residential care facility, patient must be asymptomatic.

**E. Contaminated Swimming Pools**

Fecal accidents in pools pose a significant risk to other bathers. However, the loose fecal matter oozing out from the diaper of a toddler with an infection is an even greater risk to others, and is much less likely to be detected than visible, formed stool. There are general guidelines for dealing with generic "stool-in-pool" events. Pool contamination from someone known to have cryptosporidiosis is unlikely to show up outside the context of an outbreak investigation.

For additional information regarding responding to fecal accidents in pools, see:  
<http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf>.

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## 8. IMPORTANT LINKS

- A. CDC's Parasites - *Cryptosporidium*  
[http://www.cdc.gov/parasites/crypto/gen\\_info/index.html](http://www.cdc.gov/parasites/crypto/gen_info/index.html)
- B. Tri-Agency Foodborne Illness Survey/Complaint Form  
([http://www.foodandwaterdisease.com/forms/Tri-Agency\\_Foodborne\\_Illness\\_Form\\_Electronic\\_2-16-2011.pdf](http://www.foodandwaterdisease.com/forms/Tri-Agency_Foodborne_Illness_Form_Electronic_2-16-2011.pdf))
- C. CDC's Healthy Swimming website  
<http://www.cdc.gov/healthywater/swimming/>
- D. *Cryptosporidium* and water  
<http://www.cdc.gov/ncidod/diseases/crypto/crypto.pdf>,
- E. CDC's *Cryptosporidium* and Travel Website  
<http://www.cdc.gov/parasites/crypto/travelers.html>
- F. CDC's Fact Sheet: A Guide to Water Filters  
[http://www.cdc.gov/parasites/crypto/gen\\_info/filters.html](http://www.cdc.gov/parasites/crypto/gen_info/filters.html)

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## 9. REFERENCES

- A. Heymann, D.L. (Ed.). (2008). *Control of communicable diseases manual* (19<sup>th</sup> ed.). Washington: American Public Health Association.
- B. American Academy of Pediatrics. (2012). *Red Book: 2012 Report of the Committee on Infectious Diseases* (29<sup>th</sup> ed.). Grove Village, IL: American Academy of Pediatrics.

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